Part 5 – What to do medium/long term globally AFTER the Pandemics?

Rebuilding Strategies for Public Health and Health Care after Pandemics in General.

Public Health is based on trust. Making any problem worse ends up as bad as denying it. We hope by this factual report to help any interested reader to educate further and to be able to recover some of this needed trust. As it is often the case the true path lies in the middle.

What have we been hearing so far?

- Many people, decision-makers, institutional speakers have compared the crisis as a war (against the invisible enemy) with war consequences and war-like decisions,
- Others national and international players have attempted to minimize the event and its social impacts in terms of deaths and social freedom restrictions, as a temporary virulent flu that would become an attenuated seasonal flu.

None of these models today seems to fit a critical analysis of the epidemics that is beginning to evaporate in some countries and yet continues in other ones as in Brazil, Russia for example. The SARS-2 virus does not kill as much as a pandemic flu but – by its speed of action and side-effects does not behave like a flu.

If we were to follow a "war model" followed by a post-war rebuilding period, we would need to enter a very complex transition phase back to a "peace and prosperity for all" Model. Because borders are closed, economies are destroyed, hunger and violence may arise, a lot would need to be rebuild. To get out of this corner will include a security component, a political component, a social component and an economic component.
If we were to follow the second model and ignore the dynamics of what happened and is still happening, hoping to surf on this and forget it, we will be closing our eyes on the fundamental insufficiencies of the governance revealed by this event, and on the consequences and political responsibilities that have impaired all at once: - the freedoms and the rights of citizens, - the trusting relationship between doctors and their patients, - the responsible use of media-communications (i.e. the right to be informed with as less disinformation as possible) and have generated such a heavy socio-economical impact on all.

None of this ought to happen, if we were to recognize:
- the actual magnitude of the problem with correct statistics and testing
- that we could have done better by taking a hard look at where we failed.

By humbly accepting this, we also make it possible to build up and prevent that such event happens ever again. Germs have been on the planet before us, and will be there after us, we just have to have sound structures and reflexes in place.

We need first to define the problem correctly: this is a Health Population Problem (HPP) and a Health Shock (HS). An epidemics starts with an infectious agent - known or unknown -, has a time-line scale, starts in a given place and progressively propagates along numerous routes of transmission (human, animals, air, water, cargo…). A HPP epidemics can be a Health Shock (HS) phenomenon, with small or large impacts on the number of people involved and on the fatalities.

Such Public Health shock obviously impacts the relationship between Health and Wealth. Ideally we should integrate the concepts of Health – Welfare – Wealthfare.

It is not because we have large scientific and technological platforms, and that we think biotechnology may lead the way (with vaccines for example) that we are prepared to deal with such Health Shock event.

In physically connected societies with extremely highly mobile persons, goods and services, Containment Measures are *a non-sense*. Especially after the initial phase of epidemics has ended and after the virus is *airborne*. They could be justified ONLY if there were no-ready to-go structures and processes for on-the-ground inter-operability in the epidemics. We would understand that in regions like rural China for example where the infrastructures are not yet adequate. However most of the strong economies that had to crash had the resources, they had the know-how, they had their platforms for preventive and predictive medicine. All those elements were present but somehow they were not utilized, or were ignored, or were mis-used with wrong decision-making process.

Obviously we need solutions adapted to the socio-economical models implemented in the real world.
This means **specific** models for Large Developing Countries with accelerated growth (like China, India, Brazil…), for Smaller Countries with accelerated growth (like South Korea, some African countries…), for slow growth countries (like EU, US, Japan…), or for poor and under-developed countries. Even failed states have to be taken into account.

While the local solutions will be adapted, some ESSENTIALS are common and have to be put in place regardless of the country. We can only suggest an inventory that will certainly be incomplete:

- Having functional structures with inventories of infrastructures and resources. If resources for prevention and reserves are NOT there, it would be a priority to build them up. Regular training would be a must.
- Obtaining and exchanging accurate information as early as possible. This is crucial.
- Germs know of no boundaries and wildlife is still the norm of our planet. **So meteorologists and environmental biologist and others are relevant.**
- How to protect the Hospital infrastructure? By re-strengthening the First line. Was stopping or blocking the first line of caregivers, as it happened everywhere, the smartest way to "flatten the curve"? It is truly the wrong way of doing this, as then everyone ends up in the ICU's.
- Health is a social science, hence social determinants – NOT just miscalculated death rates - are keys to evaluate the impacts of such Health shocks. We need to agree on Common Health Metrics. Those must include accurate statistics, and social, socio-economic metrics. It is being reported for example that domestic violence skyrocketed during confinement, that children were having troubles, that depression and anger augmented…
- If tracing and protection have to be done, those actions are to be specifically focused on the people at risk and the fragilized, or the elderly and the retirement communities. THOSE should be the protected – tracking whole populations is essentially killing democracy and useless.
- Likewise presenting Health care workers as heroes is nice but does not solve anything. They should be helped, protected, funded, hospitals should have procedures, materials, and buildings should have adequate filters in HVAC. Their clinical expertise should be allowed, NOT controlled, in times of crises guidelines for example restricting antibiotics prescriptions are mostly counterproductive.

Basically we have to remain focused on what an epidemic represents: it is a Health Shock with impact on the populations. It is not about politics, but about global threats requiring global answers.

We feel that Preventative and Predictive Medicine, based on Social Determinants of Health and Health Metrics of a Society, is the basic Key to design, develop and implement Solutions at the Point-of-Care.

Part 6. Various Thoughts to Reflect and Explore Further.

As we wrote, we are just trying to educate, we present apologies to the reader for being so long, for the interested readers we would like to generate additional thoughts.

Notes about Medical information.

Info-demiology truly made this public health crisis worse. The quality of information is not equal to the quantity of this information, and this is an obvious problem. How can we do better?
As germs have no borders, we need an effective chain of transmission of **quality** information.

We see 3 happening at levels:

- The Global Chain of Transmission ….e.g. from China through WHO to Countries Governments
- The Right of International Intervention to evaluate the casualties in the place of epidemics
- The Institutional Public Communication: there were great discrepancies among the western countries, relative to Representativity, Methodology and Open debate.

For example, in some countries, the communication was made political (we can think about the US, France, Belgium,…) with direct outputs towards the public. In some others, it was political but with an open technical approach (like Germany, Switzerland, South-Korea…). In some others it was political but very direct and very candid (New Zealand for example). In others it was not political but mostly technical without real decision power (Italy being an example). While those differences reflect *in fine* a country's governance and the way their Health care systems function, the decisions should always be **integrative.** The debate about the masks (yes?-no?-maybe?-but for who?) being a prime example. The initial advices to reserve them for Health care professionals was sound and based on the accumulated years of practice, but fear and optics pushed it way too far, in the end even altering official web sites and negating years of physical chemistry doing so.

About vaccines.

It may be surprising to some but the future of the "expansion" of human immunity may not be represented by vaccines, but by the implementation of the advanced Human Genomics, as we are just at the first generation of CRISPR/cas Technologies), with some support from Synthetic Biology. In the mean time it is announced for June 4 in London: "*The UK government hosts Gavi's third donor pledging conference to mobilize at least **US$ 7.4 billion** in additional resources to protect the next generation with vaccines, reduce disease inequality and create a healthier, safer and more prosperous world".* This may raise a parallel between the vaccine industry and the financial industry mutualizing ALL risks while keeping revenues private.

At some point, maybe we should consider to stop playing by the germs and viruses playbook: a germ > a vaccine >a mutation > a new vaccine… etc… This is not a sustainable solution. Vaccinate all the time against everything? Really? So exploring the power of genomics and stem cells, and immunity directly may be worth considering too. This would be cutting edge research worth funding.

Airborne Viruses and Pollution levels.

While there is no debate that viruses circulate through the atmosphere, there is debate about the effects of those free viral particles. It may be worth using modelization; it may be worth considering the level of urban pollution while tackling this question. Decreasing general pollution levels, will likely be better than having everyone walking with masks like in some sci-fi movies, and will likely mitigate airborne diseases. There seems to be an increase not only in pulmonary pathologies but also in pathologies linked to imbalances between the man and the environment.

About the Disease itself.

Quite a lot of the fatalities were suffering of other ailments. Of course they should not be used as excuses for inaction but the truth of the matter is that those co-morbidity factors were not completely evaluated, as well as the companion medications and the life-style conditions of minorities or special populations clusters with pathological traits. Worse they were used either added to inflate statistics or subtracted to deflate them.
Maybe worth pondering and studying correctly.

Another problem, that is truly un-expected, is the slow rate of recovery of some severe patients who survived the ICU, with semi-permanent impairments at the pulmonary or neuro-muscular and cardio-vascular levels. There seems to be no specific rehabilitative protocol that is effective. Could this be the result of having survived a very late stage general sepsis, which usually never happens *en masse*?
There is need for some solid research there, and possibly a place for stem cells regenerative medicine?

About a COVID No fault mechanism for good faith actors/victims.

The current COVID 19 crisis has created a situation that will generate many hurdles not only for the economic activity to start again, but also for the medical care to recover and to start working at its former level. There will be a huge need to heal in a broadest sense.

Many doctors, hospital directors and other actors of the medical sector live in fear of being confronted with litigation or medico-legal issues in relation with the COVID crisis, whether for having lost a patient because of the disease, or for being accused of delayed treatment. Also, medical treatments having been debated so much in the media, everyone ended up with an opinion on which treatment should be given or not, it is easy to see that claims could be numerous (eg. chloroquine vs. no chloroquine, etc…)

As we are writing these lines, it is also evident that there is a second epidemic of delayed care, with an unusually high number of patients that are appearing in emergency wards, with increasingly severe conditions. These are and will be the real second wave of COVID, and these patients - treated with delay - may not fully recover from their conditions. For that too, patients and lawyers may want compensation, either from medical care actors or even from political leaders.

Finally, the socio-genic fear of contagion may cause a lot of problems to business owners who do no want to risk being accused for spreading infection or – worse – causing the death of one of their customers or employees. They are likely to prefer staying closed thus feeding the economical abysmal loop in which most countries are falling. Disinfecting all surfaces all the times will only generate more real antibiotic resistance and will not erase fears.

For these reasons, the idea of some No-Fault Insurance Mechanism ought to be considered regarding businesses, which return to normal operations. Such concept, taking into consideration that everyone facing an unprecedented situation, did the best they could to limit the damage to all, would mitigate the social and societal damages. While the precise modalities (financing? catastrophe insurance funds…?) ought to be defined, this may ease the political de-confinement, would enable everyone (health care professionals, business owners…) to go back to work with some peace of mind, and would reduce the economic crisis to come.

A reasoned approach to this new phase is needed to help to heal Society, by sharing means instead of spreading blame. When Society as a whole dysfunctions, who is to blame for ‘viral crimes’?
This COVID no-fault should be implemented as soon as possible in order to maximize its efficacy.

Of course, there will be many other facts and areas where – if we are candid enough – we may learn from.

Of course this report and analysis is far from perfect, and far from exhaustive.

We hope to have brought forward a data-based general information, free from political optics, with call for simple and fast actions, and the seed of some deeper prospective thinking for everyone.

We can change the world but only one brain at a time… our own!

A society with too few independent thinkers is vulnerable to control by disturbed and opportunistic leaders. A society, which wants to create and maintain a free and democratic social system, must create responsible independence of thought among its young.

Final Text

John Dewey (1859-1952).